From Cosmetic Reform to Meaningful Integration: IMPLEMENTING EDUCATION FOR SUSTAINABLE DEVELOPMENT IN HIGHER EDUCATION INSTITUTES The state of affairs in six European countries

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FOREWORD

ince 2005 the Decade for Education for Sustainable Development (DESD) is a challenging concept which calls (national) governments, educational organisations from kindergarten to universities, NGO's, business and media to make investment in "learning" as a key agent for change toward a sustainable future. Education for Sustainable Development (ESD) is also elaborated in the policy arena of the UNECE process "Environment for Europe". In the ministerial conference of 2003 in Kiev, ministers of both Environment and Education gave start to the development of the UNECE strategy for the implementation of ESD. This strategy on ESD was established in Vilnius in 2005 and the implementation started in the countries.

In both international ESD frameworks mentioned above special attention is put on the role of higher education. By Higher Education we understand both universities as well as Institutions for Higher Education such as "Polytechnics" or "Hochschule". It is regarded that most of the people who we can see as "leaders in society, business and politics" have an academic or other higher education degree. That gives special responsibility to Higher Education Institutes in the development of competences and skills that will help the students to make choices and decisions that bring us towards a more sustainable society, now and in the future.

Also the education and training of teachers is realised mostly in Institutions for Higher Education. If we are able to empower all teachers with competences to include ESD in their education, than it will be possible to introduce ESD at all levels of education, throughout the educational systems. This is another main objective of the international ESD strategies.

The organisers of the IMESD meeting, which took place in Amsterdam 27-28 February 2007, observed that policymakers and politicians from both ministries of environment and education meet regularly on EU or UNECE arena's, discussing the needs for implementation. And that decision makers, professors and teacher meet in other arenas such as GHESP or EMSU. A third arena where ESD is discussed is that of meetings about educational policy in Higher Education such as Pisa or Bologna-processes. But seldom this arena's mix and address each other directly on the need for implementation of ESD in Higher Education, nor do they compare best practices in strategies for ESD in higher education.

To provide an opportunity and platform for such an exchange, we invited some countries that are active in ESD, showing both networks and other cooperation between universities and IHE's and having an active role of governmental actors, to share their knowledge and experiences.

In preparation for the meeting, each country was asked to write a "white paper" on the implementation of ESD in universities and institutes of higher education in their country, thus showing strategy and good practices. In the "face to face meeting" in Amsterdam, participants asked each other critically to explain what is happening in real, what recommendations we can give to each other and to other counties that are interested in ESD in Higher Education.

This report reflects both the input of the essays, a critical reflection on those as well as a brief report of our meeting. We hope it will inspire ourselves and others in the challenge of implementation of ESD.

No one have a blueprint of a sustainable future, but it is for sure we have to discuss how we get there.

Kind Regards, the hosts of the meeting:

Dr. Hans van Zonneveld, DHO





Drs. Roel van Raaij, ministry LNV

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INTRODUCTION

Sustainability is not just another issue to be added to an overcrowded curriculum, but a gateway to a different view of curriculum, of pedagogy, of organizational change, of policy and particularly of ethos. At the same time, the effect of patterns of un-sustainability on our current and future prospects is so pressing that the response of higher education should not be predicated only on the 'integration of sustainability' into higher education, because this invites a limited, adaptive, response.... We need to see the relationship the other way around — that is, the necessary transformation of higher education towards the integrative and more whole state implied by a systemic view of sustainability in education and society (Sterling, 2005, p 50).

Wing negotiations for the Fifth Ministerial "Environment for Europe" Conference, which took place in Kiev in 2003, a UNECE initiative on education for sustainable development emerged that continues to draw international attention. The regional Strategy for Education for Sustainable Development adopted at the conference by the ministers states: "Education, in addition to being a human right is a prerequisite for achieving sustainable development and an essential tool for good governance, informed decisionmaking and the promotion of democracy. Therefore, education for sustainable development can help translate our vision into reality". The Aim of the Strategy is: "To encourage UNECE member States to develop and incorporate ESD into their formal education systems, in all relevant subjects, and in non-formal and informal education."

In many European countries both national networks for Sustainable Higher Education as well as national programs for Learning for Sustainable Development have been set up, are being revised or are in the making. The number of international meetings and networks focusing on Sustainable Higher Education continues to grow. Within the framework of the UN Decade for Education for Sustainable Development (DESD), the Dutch Network for Sustainable Higher Education (DHO), in cooperation with the Dutch National Government program on 'Learning for Sustainable Development' (2003), organized a two-day international conference on the Implementation of Education for Sustainable Development for Higher Education Institutes (IMESD) in Amsterdam, February 8-9, 2007.

With a strong focus on the implementation process and implementation strategies of the UNECE strategy and the Decade for ESD, the aim of the meeting was to contribute to and strengthen the Strategy for Education for Sustainable Development in Higher Education. Subsequent to this was the aim to bridge the gap between policy makers of national governments and representatives of higher education institutes from 6 European countries (United Kingdom, Germany, Sweden, Spain, Belgium and The Netherlands). The leading theme of the meeting was "leadership", as students of today will be the leaders of tomorrow. Hence, one key question for the conference was: What competences do students need, to take the lead in their future organisation in such a way that their decisions contribute to a society that is more sustainable than the one currently in prospect? This report unites the six country reports that were prepared as input for the meeting. These reports are not really 'country' reports in the sense that they are official government reports or in that they represent a kind of widely agreedupon state of affairs with regards to the implementation of ESD in higher education, but they are rather more reflexive impressions sketched by (somewhat) heterogeneous teams familiar with aspects of ESD in the context of higher education. The heterogeneousness mainly consists out of the different perspectives of angles the members of the team brought to the country report: a (national) educational policy perspective (usually a representative from the Ministry of Education and/or another ministry responsible for ESD), an ESD research perspective (usually an expert in educational research with an interest in ESD), an NGO perspective or university special interest group perspective (usually a student and faculty 'critical activist perspective') and a university governance perspective (i.e. a university administrator of programme coordinator). The idea was that each country would create a team, consisting of all or at least some of these different perspectives, that would be responsible for the writing of the report. A simple suggested format was provided to all teams for preparing the reports (Appendix **).

The reports have been included with only minor editing (mainly the re-organizing of the materials in such a way that the reports have a similar structure). Neither have we asked the teams to distil lessons learnt of prescriptions for others in other contexts. Rather we would hope that the readers of the various country reports would mirror some of the 'reflexive impressions' and 'lessons learnt' with his or her own impressions and lessons learnt so as to enrich them and to trigger further learning that might be of value in advancing ESD in higher education in the readers own specific situation. The do's and don'ts presented in some of the country reports are not meant to be prescriptions but meant to stimulate thinking about once own practice. What we have done, however, is to include some reflections that emerged during the two day conference itself, and some attempts to arrive at a kind of synthesis that might be relevant for all. This report does not try to compare the various countries in an attempt to label or judge them. We are intentionally not referring to the practices provided as 'best practices' or even as 'good practices' but just as 'practices' that provide opportunities for further learning.



EDUCATION FOR SUSTAINABLE DEVELOPMENT STRATEGIES IN SPANISH UNIVERSITIES

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SUMMARY

The report describes how currently there is no specific programme for ESD in Higher Education (HE) in Spain from any part of the national administration. Some universities have started voluntarily various programs for introducing sustainability in HE. After describing two cases as examples of what is being carried out, the authors defend that, this is not enough, and HE institutions expect a clearer vision from the Government.

STATE OF AFFAIRS

Currently there is no specific programme for ESD in Higher Education in Spain from any part of the national administration. Neither the Environment nor the Education Ministry have developed any common action to foster ESD at Spanish Universities, although they do have ESD programmes at other levels of education.

However, actions for promoting Higher Education for Sustainable Development (HESD) were included in the *White Paper of Environmental Education*¹, elaborated by the Environment Ministry in 1999. One of the main objectives was *"to provide the integration of Environmental Education in all dimensions and functions of the University"*. This overarching aim was translated into four recommendations to action:

- To promote environmental education in higher education courses.
- → To train educators in environmental education.
- To strengthen research, cooperation and coordination about environmental education.
- To foster environmental planning and actions at Universities.

In 2000, a post-graduate programme on Environmental Education was launched by nine Universities, the National Centre of Environmental Education of the Environment Ministry and the Education Ministry. This is the only formal, ministerial supported ESD project developed for Higher Education activity at present, though it is mainly focused on Environmental Education.

Therefore, the ESD practices at Spanish Universities have been developed by the Universities themselves, without any overarching common, government supported framework. Nevertheless, there are numerous examples of ESD practice, and many of them extremely successful. More than 75% of the 73 Spanish universities have started to act for sustainability and ESD, as shown by a recent survey carried out by the Autonomous University of Madrid. This study identified 23 public universities where a specific department or unit for the environment or sustainability exists. ESD activities have been carried out in all of these universities, mainly through non-formal activities. In 2002, as a result of the cooperation between a few of these universities committed to Sustainability and ESD, the Spanish Rector's Conference created a working group to exchange experiences and foster sustainability and ESD actions among Spanish universities. At present, the steering committee of this group is discussing with the Environment Ministry an agreement to foster curricular greening and non-formal activities of ESD at Spanish Universities.

APPROACH

In Spain there is no formal process to implement the UNECE Strategy for ESD in Higher Education. For this reason, there is no common approach on ESD, but rather each University has its own frameworks. One reason for this, is the different scales and competences of Spanish administration across the autonomous regions. As well as different ministries, different regional departments exist, both for environment and for education. Cooperation is not common between these departments, at least, in HESD activities. Galicia, Catalonia and Andalusia are working to encourage regional networks for sustainable universities, leading to the design of common sustainable indicators at Galician universities; creating *green offices* at Andalusian universities and fostering research in ESD in Catalonian universities, for example.

At present, the sustainability working group of Spanish Rector's Conference is the main national agent strengthening sustainability and ESD at Spanish Universities. In 2005, they approved ESD guidelines to be implemented by all Universities. These guidelines were inspired by the UN Decade on Education for Sustainability and the Barcelona Declaration on EESD² and establish some recommendations to redesign curricula according to the perspective of sustainability and to promote ESD activities outside the formal curricula. Also, several environmental volunteer programmes for protected areas have been organised by the working group, in which a few Universities have been collaborating since 2003.

The survey carried out by UAM about Sustainability at Spanish Universities revealed that action for sustainability started in Spain around 1992, with the influence of Rio'92. There is also a group of Spanish Universities who started their sustainability activities in 2003, when the sustainability working group of Spanish Rector's Conference was created. The first activities were technical actions, such as waste management or the creation of green zones. Commitment to sustainability started to appear in University statutes at the majority of the studied Universities. There are specific posts in charge of sustainability policies at each University, some of them are held by Vice-Chancellor level. At these universities there is a specific budget for sustainability issues ranging from 10.000€ to 250.000€. We have identified 23 units responsible for Sustainability and ESD action, comprising of more than 130 people working

¹ www.mma.es/secciones/formacion_educacion/boletin_ceneam/ pdf/blanco.pdf

² The Barcelona Declaration was the outcome document of the Second International Conference on Engineering Education in Sustainable Development, held at UPC, Barcelona, in 2004 (www. upc.edu/eesd-observatory)

on them across the different Universities. These units are named, mainly, *offices* (EcoCampus office, green office or environment office) or services (environmental and health and safety service). Their actions are largely focused on waste management; energy efficiency and saving, sustainable transport and mobility and ESD activities.

In the case of ESD activities, as shown in the figure below, only 40% of the studied units develop activities focussed on curricular greening, because these sustainability units are not academic departments. They mostly carry out non-formal activities such as conferences or exhibitions; environmental volunteer programmes or campaigns to raise environmental awareness.

We now introduce the example of two Spanish Universities with ESD practices.

CASE STUDY: TECHNICAL UNIVERSITY OF CATALONIA (UPC)

Universitat Politècnica de Catalunya (UPC)'s current vision of its contribution to sustainable development (SD) is the following: "By 2015, the Technical University of Catalonia will become a technological point of reference in sustainable development at the regional, national, European and global levels, as a result of its contribution to education, research, development and innovation. This will be achieved by defining an effective, cooperative, long-term strategy drawn up by the University and its stakeholders". This vision is the result of ten years of incremental institutional commitment and internal processes, which have shifted from an initial "campus greening" perspective towards a progressively proactive institutional approach to contribute decisively and effectively to SD and use SD as an opportunity.

The institutional activities aimed at SD have been coordinated by a specific unit in charge of implementing the University environmental policy. This unit is called CITIES (Interdisciplinary Centre for Technology, Innovation and Education for Sustainability).

In 1996, when UPC's first Environment Plan was approved, it was decided that UPC would not offer a new degree in environmental studies (e.g. environmental engineering, environmental sciences), but would "green" the curricula of all existing disciplines. Although there are no specific environmental/sustainability degrees at UPC, the degrees in Civil Engineering, Chemical Engineering, Industrial Engineering and Architecture offer the possibility of specializing in environmental studies.

Since that time, several actions aimed at achieving this objective have been carried out. The specific actions can be seen in *UPC's Annual Environment Reports*, which present indicators and describe the actions carried out. Transforming current education in the UPC is based on three goals: (a) disseminating environmental concepts through the curriculum; (b) reinforcing research into environmental issues as the driving force for transforming education; (c) making the University more sustainable to ensure coherence between what is being taught and the reality of the campus (practice what you preach). Due to the great "impermeability" of the curriculum, it has not been possible to revise the courses thoroughly from a sustainability perspective, but only from an environmental one. By large the approach for transforming the curriculum has been based on "adding" content; in general this additional content is based around environmental concepts and practices. Some of the actions that have been carried out for this purpose are the following: writing manuals and guides; using indicators, benchmarking and strategic planning tools; seminars and conferences on curriculum greening and EfS. However, the European Higher Education Area (EHEA) offers an opportunity to overcome this limitation, and UPC is planning the horizontal integration of SD in all new degrees.

Among many optional subjects on sustainability at UPC, many of which have little impact, the Unesco Chair of Sustainability has developed an e-learning course of 6 ECTS on "Technology and Sustainability". This course considers the SD perspective in depth and is particularly influential because about 1000 students take the course each year. There are many other optional subjects on environment and sustainability concepts, but none of them have had such a degree of impact (the rest only have 17 students on average). There are around 70 related optional subjects, approximately 20% of all optional subjects.

For 10 years, UPC has been developing strategic plans in order to green its whole system, and particularly its teaching and learning. In 2005, the University adopted the Strategy, "UPC Sustainable 2015", in which ESD figures as an important part. The ESD target is that by 2015, *all UPC graduates will apply sustainability criteria in their professional activity and area of influence*.

CASE STUDY: AUTONOMA UNIVERSITY OF MADRID

Universidad Autónoma de Madrid (UAM)'s commitment to sustainable development (SD) is included in the university Statutes, within the functions of UAM to society, it is stated that *"the development of a multidisciplinary model of education, oriented to search for solutions to environmental problems, by the promotion of knowledge, values, attitudes, skills and behaviour patterns involved in SD"*. This commitment implies not only teaching and research but also university management and environmental education and participation activities.

The ECOCAMPUS Office, created in 1997, is the main responsible unit for sustainability, both for technical activities and for non-formal education and participation in environmental issues. *Participation* comprises a diversified set of actions targeted at all members of the University community, so everybody has the space (or time) to act for sustainability.

The ECOCAMPUS Office tries to inform and raise awareness of sustainability to the wider University community; and help them to take part in decisions and actions for sustainability at UAM. Also, ECOCAMPUS tries to help to include sustainability into curricula, despite being a service not an academic department. It helps teachers use UAM as their "lab", and ECOCAMPUS coordinates the course "*Great environmental challenges of 21st century*" that is focused on those students whose study plans do not include environment as a key working area. With this subject, students receive basic education concerning environmental problems, their impacts, and their solutions at every scale, in coherence with the general concept of "*Think globally, act locally*".

Since 1996, in the middle of spring, we have been organizing a *Green Week*, a set of different non-formal EDS activities: conferences, workshops, role-playing, exhibitions, excursions to areas of natural interest... We have learnt that the less academic activities we organise are the most successful: students have enough courses, and they prefer to participate in other types of activities. However, last year, participation decreased, so we have decided to offer academic credits for some activities.

The first action for the environment at UAM was the creation of a Environmental Commission in 1992. In this Commission all groups (teachers, students and staff) and centres (Colleges and Faculties) are represented, as well as those staff and posts related to sustainability, such as the Vicechancellor or ECOCAMPUS delegates. The Commission has meetings monthly. In this Commission, environmental quality at UAM is addressed: waste management, environmental awareness, transport, and so on.

Finally, we receive all kind of initiatives about sustainability and ESD, and help teachers or students to prepare them. We have supported, for instance, the student's association to organise an ornithology course and Nature photography competition. For those students who want to do "something", but are not sure exactly what do do, we also have the environmental volunteer programme. It consists of an educational itinerary: we create the group; they then analyse the environmental problems of UAM, and finally, propose actions to improve UAM's environmental quality. They mainly choose and develop ESD activities, such as conferences, exhibitions, gymkhanas and reforestation at the campus.

LESSONS LEARNT

University culture and resistance to change

The biggest handicap is the traditional resistance to change in HE institutions and the high degree of "irrationality" in the decision-making process in discussions on curriculum (re)design, based ultimately on the curriculum as a tool of power in the university structure. The experience of mainstreaming environmental goals in UPC's overall strategic planning has increased the level of "greening" but not redesigned the programs from a SD perspective. Hence, opportunities for significant change such as the "Bologna" process should be seized. These handicaps are most significant for non-academic ESD activities, even if some teachers are in charge of them. Generally, it is considered as something voluntary, or unimportant compared with courses and subjects.

The level at which changes occur

Our perception is that each individual change is a key element in the overall change. Institutional plans and decisions are nice on paper, but do not transform into reality if there are no believers and actors behind them. Bottom-up is as important as *Top-down*, complemented with middle-level staff who keep the change process going; hence the need for new SD specific structures such as CITIES or ECOCAM-PUS . The 23 recognised environmental or SD units and their staff show that universities are taking SD seriously. Or they are starting to do so.

Concentration vs. dissemination

All our current approaches combine concentration and dissemination, and try to strike a balance between the two. The problem is that although concentration has the benefit of showing examples (thus motivating), building a critical mass and producing rapid changes, it only affects a few actors, and often creates "*SD ghettos*". On the other hand, diffusion affects the majority, however is more complex to manage, much slower in becoming visibly effective, and sometimes hard to keep going.

Non academic activities are being considered as a necessary element of an integral ESD strategy at the University. These kind of activities are suitable for education in values, skills and behaviour; even better in some cases than academic activities. However, as HE institutions, our main role is teaching and research, so, it is essential to connect both types of actions into a common strategy.

Lack of pressure & external recognition

Another important issue is the lack of pressure in Spain to make these kinds of changes. UPC has been a forerunner in all the issues of curriculum greening; UAM has been leading the environmental volunteer programme, although both have never been "asked" to do so or "recognized" for doing so. National platforms such as those in the UK, Netherlands and Sweden are clearly needed.

PLANS FOR NEAR FUTURE

Although isolated voluntary planning by each university is good, it is clearly not enough to overcome the barriers. The sustainability working group of Spanish Rector's Conference (CRUE) is trying to trigger a Spanish Strategy of HESD, which should be linked necessarily to the adaptation to the EHEA, and should count with the help and leadership of the Spanish Environment and Education Ministries. Currently, the only planned step is to sign an agreement between CRUE and the Environment Ministry, and then the Education Ministry should join. Certainly, this is not enough, and HE institutions expect a clearer vision from the Government.

Sweden

EDUCATION FOR SUSTAINABLE DEVELOPMENT STRATEGIES IN SWEDISH UNIVERSITIES

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SUMMARY

This report presents an overview of education for sustainable development (ESD) in Swedish universities. The guiding principle in gathering information has been to ask a question to wake an idea, a reflection and finally an action. The information, where references are not included, is based on a survey and other communication with university representatives and short interviews with agencies on the national level³.

The aim of the report is to present an overview of the many activities that are taking place. It presents, however, not a complete picture of ESD in Sweden, given the short format.

STATE OF AFFAIRS

N ational level

In 2006 an amendment to the Higher Education Act (SFS 1992:1434) was made according to which universities in their activities shall promote sustainable development, which means that present and future generations are assured a healthy and good environment, economic and social welfare and justice.

The concept of SD has generally focussed on the ecological sustainability, but it is slowly being widened to include also social, economic and even cultural dimensions. It is apparent that the revision of the Higher Education Act and the seminars listed below have resulted in discussion about possibilities and problems of integrating SD in higher education and if and how it could be evaluated.

One of the major activities for education for sustainable development on the national level in Sweden during the last years was the international consultation, Learning to change our world, with the theme Reflect – Rethink – Reform, which took place in Gothenburg in May 2004 with about 350 people from 70 countries (Regeringen, 2004a). It was organised by a National Committee for Education for Sustainable Development (called later the committee) and was followed by;

- A committee proposal "To learn for sustainable development", which presents characteristics of ESD and that its aim is to make it possible for all learners to gain ability and willingness to act for SD locally and globally (SOU 2004:104).
- A collection of articles edited by The Swedish National Agency for Higher Education (HSV) *"Perspectives on sus-*
- 3 A survey with open questions about activities and plans to implement ESD was sent to 38 Swedish universities, aimed at renewing the call to place ESD on agenda in them while providing several actors an opportunity to contribute to the report. Replies were received from 28 universities (74%) seven with just a few lines, twenty one complete and two with quite an extensive documentation. Of those who replied 13 had an administrative function, 10 had a function as a environmental coordinator, environmental manager or a head of a centre dealing with environmental and sustainability education and/or research, 5 of them had an educational function as a professor, lecturer or a head of a program and one was a PhD student on education for sustainable development.

tainable development. Experiences from university and business" (HSV 2004).

- Short lectures and workshops, *"Introduction education for sustainable development"* arranged by the committee in Stockholm on December 3, 2004 (Regeringen, 2004b).
- A Conference "Science for sustainable development starting points, dialogue and critical reflection" arranged by The Swedish Research Association for Sustainable Development (VHU) in April, 2005 (Frostell (ed.), 2006).
- Short lectures and workshops for representatives of higher education and business sector, *"A holistic view What does education for sustainable development require?"* arranged by the committee in April 25, 2005 (Regeringen, 2005a).
- The revised Swedish strategy for sustainable development "Strategic Challenges A Further Elaboration of the Swedish Strategy for Sustainable Development," (Regeringen, 2005b).
- The VHU conference "Education and learning for sustainable development" in March, 2006 (VHU, 2006).
- The Swedish translation of the UNECE strategy for Education for Sustainable Development in higher education.
- The annual quality conference arranged by the Swedish Agency for Higher Education, which had a theme with presentations about ESD in April 2006 due to the recent revision of the Higher Education Act (HSV, 2006).
- Increased activity in several of the national networks for ESD in universities; HU2, LHUT, miljöpedagoger, MLUH, VHU and one for university students; Swedish Ecodemics. ⁴ The government, elected in September of 2006, will continue the Swedish commitment to ESD, but still needs to formulate guidelines for future work. At this point, new directives have not been given to the national agencies, Swedish National Agency for Higher Education (HSV), Swedish Agency for Networks and Cooperation in Higher Education (NEHL). The Swedish Council for Sustainable Develop

tion (NSHU), The Swedish Council for Sustainable Development (Hållbarhetsrådet), dealing with higher education or sustainable development. Due to the fact that the amendment to the Higher Education Act only recently entered into force, the Swedish National Agency for Higher Education considers that it still is too early to evaluate its application in universities within its regular evaluations (Forsberg). SD is presently not included in the agency's national quality evaluation program.

University Level

Most universities have been working with education as one of their indirect environmental aspects in their environmental management systems (EMS) according to the directives they have received from the Swedish government among other public agencies since 1997 (Sammalisto et al, 2005). Most universities have so far offered environmental courses and educational programs on undergraduate and graduate levels. Only a few have offered education which includes the whole concept of sustainable development. Where this has been done it has been in single subject courses or integrated in disciplinary courses.

4 HU2 (network for ESD in higher education), LHUT (learning for sustainable development), Miljöpedagoger (network for environmental educators), MLUH (network for environmental coordinators in universities), VHU (The Swedish Research Association for Sustainable Development), Swedish Ecodemics (student network for sustainable development). Centres promoting education, research and cooperation both within university and with local, regional, national and international actors in the area of SD have been established at several universities.

A national survey indicated that those who replied in 27 out of 28 universities were aware of the revision of the higher education act, 13 were aware of the UNECE strategy and 22 state they have started working with education for sustainable development.

COOPERATION

N ational level

Within the Ministry of Education, an internal network coordinates a vast range of issues concerning education on different levels, among them sustainable development, in their areas of work. As the universities are independent institutions with decentralised powers, the government does not regulate the educational content in detail. Guidelines are given through bills, legislation and certain assignments and the results of the efforts of the universities are reported to and discussed in dialogue with the Ministry.

University level

Although the Centre for Environment and Sustainability (GMV) in Gothenburg has institutional commitment from two universities and long traditions, cooperation at university level concerning ESD issues is generally only slowly starting to take form. It is often based on the initiative and cooperation between individuals. Many universities have for a long time had extensive cooperation with national and international actors and mention especially their local municipality, county councils, county administration, other universities, different educational networks, branch organisations etc. Business partners are involved especially in thesis work for the students and as guest lecturers. Also the various centres connected to universities provide coordination and support.

Many universities arrange open seminars or lectures on topics related to SD for their students and those interested.

APPROACH

N ational level

On national level the approach has been to introduce policy documents, revise the Higher Education Act and to arrange conferences and seminars. The national HU2 network has been allocated recourses to work with creating learning outcomes for SD in accordance with the Bologna process.

Even though the "vagueness" of the concepts of SD and ESD causes certain problems, especially the revision of the Higher Education Act together with the national and university level activities has started a process that is now starting to reach university managements and lectures who have previously not been a involved. It is finding its place on the agenda of universities and it is being acknowledged that the work for ESD needs to be a priority. Due to the complexity of the very concept of SD it needs to be recognised that various approaches may be needed to allow different disciplinary perspectives and that it is bound to take some time.

University level

Most universities report that they are in the planning and start up phases, few others have come to the stage in the process where ESD is at least made known to many in the faculty. Commitment from the university management is still low, but continues to be high from a number of individual lecturers. There is, however, still a long way to go to get ESD an integrated issue in the whole university structure.

Several approaches are used both within the EMS structure and in separate SD groups. Some universities are including ESD in the strategic plans for the university. Others are creating objectives and targets, action plans, audit and reporting models, policy documents and guidelines for educational programs and plans, certificates and diplomas etc. Some are working on information databases for lectures with examples of integration. Many provide education and training courses and dialogue processes with SD from different disciplinary perspectives to lecturers to increase awareness and to help in integration in different faculties. There appears to be more focus on the approach and increase in the strategic and interdisciplinary approaches. Two universities include ESD in their quality program.

Two main strategies to organise the work with ESD in universities have been identified. When ESD is integrated in their ongoing work with EMS, many universities include the social and economic dimensions of sustainable development in their indirect aspects and have replaced or are replacing their environmental policy with a policy for sustainable development. Three universities have chosen to work only with the direct environmental impact within their EMS and have created task forces specifically for education and research for sustainable development. Most of these are in the initial stage of creating of action plans.

The EMS implementation process based on Government directives has been a driver for many universities to start training their management, faculty and staff. Now arranging dialogues, seminars, conferences etc to increase the awareness about SD and how it affects the university is going on. Those working within the EMS use its structure to set objectives and targets and to follow up in audits and reporting. Those working with action teams have started from university vision and are working on goals that then need to be implemented within action plans.

Some universities have chosen SD as a profile for the whole university or within their university vision and have a strong commitment from top management with resources for a long term work. In most universities, however, those already working with ESD, would like to see a clearer management commitment and support and to lift ESD to the agenda for the whole university. They also point out that a long term commitment would also guarantee recourses for a continued effort and follow up university-wide. Also the excessive work required in implementing the higher education reform following the Bologna process has reduced the possibilities to engage in the ESD but it also offers a possibility to connect the work to the learning outcomes that are important for the Bologna process.

Some universities have taken decisions to provide introduction in SD to new students ranging from two hours to 15 ETCS credits mainly to students of teachers training and engineering study programmes. Integration in courses takes place mostly in traditional ways via quest lectures, seminars, special assignments and papers. The teacher training students for example have an opportunity to make projects, surveys and lesson plans about SD in their local schools.

The universities with centres for education, research and cooperation plan to continue and develop the work within them further. The centres that have been established provide inspiration, competence and in some cases opportunities and legitimacy to promote ESD even in disciplinary faculties and courses.

The overall aim of all the activities above is to increase awareness among faculty and staff of universities of the wider SD concept with the different dimensions of sustainability and how they can be developed and integrated in courses and research from different disciplinary perspectives. Working in an interdisciplinary way helps to see the different perspectives and the complexity of the preconditions of SD. The different perspectives and conflicts of interests contribute to this.

LESSONS LEARNT

SURPRISES REPORTED BY UNIVERSITIES

The universities report that their policy for SD has mostly been received in a positive way, and some universities, especially those educating teachers and engineers, have taken policies that all students have to have SD in their education. According to the universities students appreciate the courses of SD and realize the need of it when they get to analyse their own life styles. It is also noted that students are often more farsighted than lecturers.

Resources have been made available for integration of SD and the classification of courses appears to have started an individual process for integration of SD among lecturers. SD is being included in learning objectives to all students. The discussion about SD has stimulated cooperation between education and research and over faculty boundaries.

DISAPPOINTMENTS REPORTED BY UNIVERSITIES

The universities bring up several different disappointments or challenges. They report that the number of students registering to educational programs especially in engineering and natural sciences is reducing which causes economic constrains and less resources for development activities. It is also difficult to recruit students to interdisciplinary courses.

It takes a long time to get acceptance for integration of SD and the interest for ESD among teachers and students varies at the same time as there is a lack of support from the management and resources for ESD. Finally there is a lack of interest among faculty to integrate SD and the enthusiasm among the pioneers, who work with SD with very limited time and incentives, is not always appreciated among old ideas and structures.

PROBLEMS AND NEEDS AS EXPRESSED BY UNIVERSITIES

- There is no clear definition of SD and there is a discussion about if and to what degree the content can/should be replaced by approach and attitude. This highlights the different traditions and approaches in different disciplines. It creates also a need to cooperate both within and outside the university and exchange ideas and experiences between lecturers, which increases the requirements on individual lecturers. Another problem is to assess the students in an examination regarding their competence of SD. Future teachers are expected to have good knowledge and understanding of SD since they will have to be able to teach it further to their students, but they tend to choose other, more important courses when SD courses are optional. When SD courses are compulsory, however, they often provide an eye-opener for the students about the SD issues.
- The requirement to integrate several perspectives, for example equality and internationalisation in university education is now including sustainable development is also a problem. But the possibility of including different perspectives under the SD umbrella is also brought up.
- While the work with EMS provides structure for the ESD, there is a risk of the work becoming mechanical and the requirement for a connection and consequences increases. It is also difficult to gain academic legitimacy to EMS work, which is seen as merely an administrative exercise. It is difficult to make decisions about future activities for ESD due to lack of information about previous efforts.
- SD is seen especially by many representing social sciences as a political buzz word and ESD as a political decision without any real life bearing. There is also an idea that the content of education as well as that of research must not be regulated by political decisions and that they must be assessed within science.

The broad introduction of ESD into higher education is still at an early stage. National assessments have not been preformed yet. Therefore conclusions on lessons learned are difficult to draw. However, advice from university representatives gathered through the survey will be presented below.

DO'S AS SUGGESTED BY UNIVERSITIES/UNIVERSITY REPRESENTATIVES.

N ational level

- Introduce ESD in examination goals, quality assessment guidelines and other national policies.

- Create a national structure to follow up the work with ESD continuously and so to provide feed back and incentives to universities. By emphasising the importance of the issue nationally, university managements are likely to provide support to departments and lecturers who in the end must "own" the question and integrate it in their work.
- The national authorities should also support national networks for ESD, which can form an important arena for discussion, learning, development and the dissemination of good examples without competition.
- It is also important to show good examples of work and the development of ESD and connect it to daily activities in campus management and in training of faculty and staff.
- Interested students can lobby for ESD at the universities, on national and international level.
- Support the existing regional centres that can mobilize force and become distinct actors for ESD and create new centres where needed.

University level

- Include ESD in local policy documents dealing with educational plans, course plans, quality assessment etc.
- Continue the discussion of the meaning of SD as such and support efforts to develop methods to implement it.
 It can also be left open to be defined from the basic understanding "we must make sure that the basic human needs are satisfied for all people without damaging the life maintaining systems of the planet" (Kates et al, 2001).
- University managements have to provide active support for the strategic long term work with ESD.
- Adjust the educational approach of SD to courses and programs to encourage a critical approach in different disciplinary contexts.
- Interested students can lobby for ESD at universities.
- Work in a systematic way, gather feedback and experiences.
- Have patience and distinct leadership

DON'TS AS REPORTED BY UNIVERSITIES

N ational level

Don't let university managements forget about ESD in the name of decentralisation.

University level

- Do not try to approach all lecturers and students in the same way. Do not forget to be sensitive to the fact the different groups for example from different disciplines need different approaches and focus.

- Do not focus just on methods to integrate SD in for example EMS but also on the content, otherwise there is a risk of the work becoming mechanical.

- Do not provide solutions, but challenges to find solutions.

BARRIERS

University level

The cooperation between universities and outside actors is largely based on individual efforts so it is impossible for someone to have an overview of the whole situation. Many universities report, however, that there are no barriers in the cooperation with the local actors, except own fantasy, awareness of possible cooperation partners and to see the opportunities when they are opened. The lack of time and the collision of the different time frames and organisational forms in university and outside it form also a barrier. For example a research funding application takes a long time to process and by the time financing is granted the research problem in an organisation outside university has been replaced by another. In addition, the research funding structure in itself is a barrier as it has a disciplinary focus and does not reward interdisciplinary and multidisciplinary research. Also the appreciation system of academia seldom favours cooperation with business.

Another barrier at the moment is the low registration of students in engineering and natural science programs which by tradition have had most cooperation with industry.

Also the concept of SD can be seen as a communication barrier since the concept is understood and is also likely to be applied in different ways in ESD in the various disciplinary contexts. Cooperation requires willingness to listen to and learn from one another and every lecturer has to find a way to approach SD and ESD. This is considered especially important across the disciplinary barriers. The discussion about the meaning of SD may also appear to be a purely academic question to those outside universities.

ESD LEADERSHIP & COMPETENCE

As ESD becomes introduced in more courses and programmes, students become increasingly aware of the issues related to SD. Many aspects of SD are, however, under researched and long term effects are still to be determined.

The competency required for SD is according to the survey manifold, but the basis of it is relevant knowledge and an ability to think, act and take responsibility out of a holistic understanding of the preconditions of life on earth in a global perspective. It includes the ability to continuous learning from others and the ability to cooperate over disciplinary and professional borders, to think and analyse critically and to solve problems seeing possibilities and limitations in ones processional role. An important ability is also that of complex thinking and using specialists for different areas. Leaders need to have the ability to create enthusiasm and to think in new creative ways.

PLANS FOR THE FUTURE

National Government

- A follow up of the Gothenburg conference is planned for 2008.
- Much of the preparatory work for the implementation of UNECE strategy has been done earlier although the plans of the new government still to be clarified. (Jonsson)
- The government is in the process of establishing a Globalisation council and a Sustainability commission with the aim to make the work for sustainable development more efficient and up to date by revising the organisation and

policy instruments to promote good initiatives from individuals and businesses, which may have bearing to ESD.

- The Ministry of Education plans to train all staff including senior level in SD and what significance it has on their duties.
- The Ministry of Education is also aiming to complete an action plan to implement the UNECE strategy for ESD in Sweden during 2007.
- The HU2 network has been granted resources to develop learning outcomes for SD in accordance with the Bologna process by the Swedish Agency for Networks and Cooperation in Higher Education (NSHU) for the year 2007.
- A task force of the MLUH network has been working on sustainability indicators for higher education within the EMS and the document has been on remiss among members of the network.

University level

- The universities that work within the EMS structure plan to continue the work within it and add all the more of the SD aspects in their work with the environment and to continue to follow up the work within EMS.
- Universities were task forces have or are being created for the work with ESD are working to make a review of the situation for example by assessing courses of SD content, working with training and dialogue with faculty.
- All universities will be invited to participate in the HU2 network to create learning outcomes for SD.
- The following international conferences are planned;
- A follow up of the 2004 Gothenburg conference in 2008
- 13th Annual International Sustainable Development Research Conference in Västerås June, 10-12, 2007 (http://www.eki.mdh.se/sdconfo7/)
- 3rd International Energy conference in Västerås (prel 18-20 June, 2007)
- Research for sustainable development the social challenge. VHU conference in Linköping. 6-7 Spetember, 2007. vhu_konf_2007_forsta_inbjudan_061208 08/12/2006,18: 42 248.72 Kb
- Learning to Change Our World international consultation on ESD, May 2008.
- Engineering Education in sustainable Development, 2010

CONCLUSIONS

There is a great variation of the work with ESD in Swedish universities. The university commitment can still develop, though the commitment of individual lecturers is high. At this point the work is still largely driven by enthusiasts and the topic is rather new for many university managements and most of the faculty. Interest is increasing, however, due to the discussions resulting from the revision the Higher Education Act. Some universities have been working for a long time and have gathered a lot of knowledge and many experiences while others are just starting. Through cooperation and coordination between the universities, the development of ESD could improve and become more efficient. Knowledge, experience, contacts and inspiration could be shared through regional, national and international exchanges. An increasing number PhD dissertations about ESD is expected to make a contribution both on university and national level.

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EDUCATION FOR SUSTAINABLE DEVELOPMENT STRATEGIES IN ENGLISH UNIVERSITIES^{5,6}

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SUMMARY⁷

POSITIVE ASPECTS

- There has been considerable progress at policy level in England, led by the Higher Education Funding Council for England (HEFCE) with the endorsement of central government. This is echoed by recent policy and strategy work in the post-16 and school sector.
- There appears to be a quite high level of awareness of the importance of sustainable development (SD) amongst higher education (HE) staff, though this is by no means uniform across the sector.
- The Higher Education Academy (HEA) runs a significant interdisciplinary project on ESD across the UK.
- There are small, but growing, networks of academics involved in developing ESD in HE.
- 5 Participants from the UK in the IMESD meeting were: Ann Finlayson Education Commissioner, UK Sustainable Development Commission, David Foxley Manager, Engineering Design Education, UK Royal Academy of Engineering, William Scott, Director, Centre for Research in Education and the Environment, University of Bath, Joanna Simpson Policy Adviser, Higher Education Funding Council for England (HEFCE), Stephen Sterling, Schumacher Reader in Education for Sustainability, Centre for Sustainable Futures, University of Plymouth; and Senior Advisor for ESD, UK Higher Education Academy
- 6 This paper reflects the views of the writers and does not necessarily reflect the UK Government's position.
- 7 Note: this paper refers to the position in England, rather than the UK as a whole. There are differences as well as similarities in the higher education (HE) systems in Scotland, Wales and Northern Ireland.

- There are two well-funded research centres working on embedding education for sustainable development (ESD) in HE, and a number of other active centres of expertise in addition.
- There is some baseline research on the status of ESD in HE.
- There are some signs of rethinking of policy at higher education institution (HEI) level in the light of changing views of employers and professions with regard to SD, and also government interest in sustainable communities.
- HEFCE has produced a well-developed strategy and action plan, and a major 'benchmarking' strategic review of the status of SD in HE is currently underway.

NEGATIVE ASPECTS

- It is the perception of many actors in the field that support for ESD by central government is more passive than active: that it is not being driven coherently or energetically enough by government.
- The updated (2006) Department of Education and Skills Action Plan for SD makes no mention of either the importance of ESD, to which there is only a passing reference, or of the HE sector's significance to SD.
- There is a gap between development at the national strategy level, and regional and local policy forums and agendas. At regional and local authority levels, there are very few posts with an ESD remit.

- Most English HEIs have an environmental management policy, but in only a minority is there an over-arching SD policy within which this nests.
- In English HEIs there has been greater development in relation to environmental / sustainability management and SD-related research than there has been in relation to curriculum / teaching.
- There is more of a perception in HEIs that sustainability requires accommodation as regards curricular content, with less agreement that ESD needs to involve pedagogic change and renewal, interdisciplinarity and appropriate policies at the level of the institution.
- There remains confusion about the qualitative difference between 'embedding SD in education', on the one hand, and reorientation towards 'education for sustainable development' as a more holistic response involving cultural change, on the other. The term 'ESD' remains contested.

There is a minority but significant groundswell in favour of SD and ESD in Higher Education. Growth in SD-related research has been stimulated by increases in funding available from research councils, industry and government. Interest in sustainability has been bolstered by high media coverage of sustainability issues, particularly in the past year. However, this has yet to be translated into major shifts of policy and practice across the HE sector, though there are examples of significant institutional commitment.

The idea of ESD is not well understood compared to the need for environmental management, or the importance of research. If it is to be thoroughly embedded in HE, ESD needs to be associated much more visibly and markedly with institutional status, access to funds including research funds, academic performance and career paths. In addition, there is a need for indicative as opposed to directive guidance around such items as generic and discipline-based curriculum schemes, key skills, strategies and teaching and learning frameworks, together with research priorities to help accelerate engaged change.

2007 could be a critical year in terms of whether ESD makes a breakthrough in terms of becoming a critical item on the HE policy agenda in England, and the UK generally, given rising political and public concern about sustainability issues.

STATE OF AFFAIRS

A) POLICY AND STRATEGY BACKGROUND

It is important to state that under the English system, HEIs hold and safeguard a considerable degree of autonomy not least as regards their curriculum and course provision. Traditionally, they are resistant to direction from central government as regards the orientation of their teaching and learning policies and practices. Therefore, the mainstreaming or embedding of ESD in HE is a complex, largely decentralised, and multi-stranded process undertaken by disparate groups of academics variously involved in raising the debate, developing policy and theoretical frameworks, networking, influencing peers, using existing funding streams, researching, disseminating, working with professional bodies etc. In England, universities as institutions, and individual academics, have interests in relation to SD through research, consultancy, teaching, and management, and there is evidence of an acceleration and deepening of engagement as the political agenda has come to focus on issues such as climate change, poverty, and biodiversity loss. Alongside this work within universities, there has been a parallel increase in interest by external agencies in stimulating its growth, sometimes in particular directions.

ESD in English HEIs needs to be understood in the wider policy context of the UK as a whole. The UK government's SD strategy Securing the Future http://www.sustainabledevelopment.gov.uk/publications/uk-strategy/index.htm aims to:

enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. (UK Government 2005, 6)

Securing the Future was launched in tandem with a Strategic Framework One Future – Different Paths (2005) agreed by the devolved administrations in Scotland, Wales and Northern Ireland to provide a consistent approach to SD across the UK. This framework includes:

- A shared understanding of SD
- A common purpose outlining what the UK is trying to achieve and the guiding principles needed to achieve it
- Priorities for UK action on SD, at home and internationally; and
- Indicators to monitor the key issues on a UK-wide basis

This is supported by separate strategies for each devolved administration that set out further priorities to be supported by additional measures and indicators. See: http: www. sustainable-development.gov.uk/publications/uk-strategy/ framework-for-sd.htm.

The Department of Education and Skills (DfES), responsible for education policy in England, produced a *Sustainable Development Action Plan for Education and Skills*, in September 2003 http://www.dfes.gov.uk/aboutus/sd/action. shtml. This required HEFCE to develop an SD strategy for itself and for the way it interacts with the HE sector. HEFCE then published *Sustainable Development in Higher Education: consultation on a support strategy and action plan* http://www.hefce.ac.uk/pubs/hefce/2005/05_01/, inviting written responses from the sector, and holding four consultation seminars.

In July 2005, following the consultation feedback, HEFCE published Sustainable Development in Higher Education http://www.hefce.ac.uk/pubs/hefce/2005/05_28/ which set out the Council's revised approach to promoting the SD agenda, taking account of Securing the Future, the Government's strategy for SD. The HEFCE strategy includes a vision statement that:

within the next 10 years, the higher education sector in England will be recognised as a major contributor to society's efforts to achieve sustainability – through the skills and knowledge that its graduates learn and put into practice, and through its own strategies and operations. In 2006, the DfES updated its SD Action Plan in response to *Securing the Future*. In this, the only action that relates to HEFCE was encouragement of non-departmental public bodies to produce their own action plans by during 2006. This the Council did http://www.hefce.ac.uk/lgm/sustain, setting out the actions it would undertake in 2006/07. HEFCE has also made SD a key theme of its strategic plan for 2006-11 http://www.hefce.ac.uk/pubs/hefce/2006/06_ 13/. This includes a key performance target that 'by 2008, HEFCE will develop a baseline assessment of how the HE sector contributes to the sustainable development of society, and to demonstrate progress in this area by 2011'. In pursuance of this it has (2006) commissioned a 'light-touch' strategic review of activity which aims to:

- establish a baseline of SD in the sector, against which HEFCE can measure progress and publicise what the sector is already doing
- learn from institutions' experience about the conditions for embedding SD, including barriers and drivers
- identify key issues which present opportunities and challenges for the sector and investigate possible policy responses
- evaluate its approach and refine priorities
- raise the profile of SD in the sector.

This strategic review is now underway and is due to report in late 2007. This should give a much clearer picture of the status of SD / ESD in English universities. The outcomes of the review will be used to show stakeholders, including government, the extent to which the HE sector is promoting SD. It will also allow HEFCE to evaluate and benchmark its approach, and help refine priorities.

It is important to state that whilst aiming to influence policy and practice, HEFCE will not set targets or mandatory reporting requirements regarding SD in HE, or link funding to SD achievement.

B) KEY STAKEHOLDERS

1. *Higher Education Academy ESD Project* http://www. heacademy.ac.uk The Higher Education Academy (HEA) is a UK wide organisation that works with HEIs and funds 24 discipline-based subject centres to improve the student learning experience. In 2005, the HEA subject centres initiated the ESD project in response to HEFCE's request that HEA should take the lead in efforts to embed ESD in the HE curriculum.

In the period since its inception, the HEA ESD Project's work has included:

- Commissioning and publishing a report on the status of ESD in HE (Dawe Report, 2005).
- Commissioning research from Forum for the Future on the policy context relating to ESD in the four parts of the UK.
- Holding a seminar series on ESD and Interdisciplinarity.
- Initiating small ESD research and development projects in 8 different HEIs.
- Commissioning the development of a generic Teaching and Learning Framework for ESD in HE, and a generic module.

This work has been successfully completed, but needs to be expanded if it is to have widespread impact.

2. *EAUC* The Environmental Association of Universities and Colleges (EAUC) http://www.eauc.org.uk was launched in 1996 and now has some 200 institutional members from further and higher education. Whilst the emphasis in the past has particularly been on environmental management and campus greening in HEIs, there is increasing interest in ESD and a curriculum network was set up in 2006.

3. HEEPI Higher Education Environmental Performance Environmental Improvement http://www.heepi.org.uk is funded by HEFCE to promote better environmental management in HEIs. This includes the annual Green Gown Awards, where HEIs compete for best practice recognition.

4. Forum for the Future http://www.forumforthefuture.org. uk has had a significant impact through its 3-year Higher Education Partnership for Sustainability (HEPS) project (2001 – 04) which took SD issues forward in 18 partner universities and colleges. Forum's work in the sector continues through commissioned research and consultancy.

5. UK N ational Commission for UN ESCO ESD Working Group includes major stakeholders in ESD and has responsibility to advance the UN Decade of Education for Sustainable Development. Currently, it lacks government funding for an active programme.

6. The Sustainability Integration Group (SIGnet) brings together the bodies that fund, plan and regulate the post-school sector. The network's aim is for members to work together to integrate 'sustainability literacy' into curricula.

7. HEIS significantly involved in SD are a minority, but it appears to be a growing movement. Notably, HEFCE funded two 'Centres for Excellence in Teaching and Learning' in 2005 with five-year programmes to advance SD within and beyond their institutions. These include the Centre for Sustainable Futures at the University of Plymouth http:// csf.plymouth.ac.uk/ and the Centre for Sustainable Communities Achieved through Professional Education (C-SCAIPE) at Kingston University, London http://www.c-scaipe.ac.uk/. The Plymouth project has an holistic approach to whole institutional change around sustainability and its work is feeding into the HEA ESD Project to assist national dissemination and dialogue. A number of HEI's have sustainability strategies or have this work in progress. In most cases, 'campus greening' is advancing more strongly than the more intractable area of curriculum change. Prominent developments are the University of Bradford's 'Ecoversity' concept http://www.bradford.ac.uk/admin/ecoversity/, EcoCampus , a national Environmental Management System funded by HEFCE and hosted by Nottingham Trent University http:// www.EcoCampus .co.uk/, and the EAUC.

8. *Professional bodies* An increasing number of professional bodies are developing requirements and guidelines for education and training related to sustainable development, and these are having some impact on degree courses. For example, in March 2004, the Engineering Council (UK), introduced UK SPEC (Standard for Professional Engineering

Competence) http://www.engc.org.uk/UKSPEC/default. aspx which requires that engineering degree courses develop competencies in students that will allow them to 'Undertake engineering activities in a way that contributes to sustainable development'.

C) RESEARCH ON THE STATUS OF ESD

There are a few research reports on the status of ESD in HE, although detailed and comprehensive information is lacking. Key reports include:

- 1 Dawe, G, Jucker, R and Martin, S (2005) Sustainable Development in Higher Education: Current Practice and Future Developments, Higher Education Academy, York http://www.heacademy.ac.uk/4074.htm Based on interviews and questionnaires sent to the HEA's discipline-based subject centres, this report identified barriers to the embedding of SD in HEIs, but noted that, whilst progress was patchy, there was 'evidence of strong underlying support' for more action in this regard amongst academic staffs. The barriers identified, however, were not specific to either HE or SD.
- 2 SQW, (2006) Scoping study for a strategic review of sustainable development in higher education: A report to the HEFCE, SQW http://195.194.167.100/pubs/rdreports/ 2006/?0=1.

This report was prepared in preparation for the HEFCE Strategic Review (see above). It makes a distinction between corporate operational functions driven by cost considerations and regulation, and academic functions, centring on curriculum, teaching and learning, and research. The report maps out the ground that needs to be covered to produce a systematic baseline of progress in SD in HE in England.

3 Levett, R and White, (2006) Sustainability carrots and sticks: the benefits and risks of sustainable development in HEIS – Report to HEFCE, Levett-Therivel Sustainability Consultants http://www.hefce.ac.uk/pubs/ rdreports/2006/.

This report outlines the threats, risks and pressures relating to SD that HEIs will need to prepare for, and the opportunities and benefits that sustainability can offer them. It concludes that often the threats and opportunities are two sides of the same coin. They include opportunities to reduce consumption of resources and save costs; to become 'pathfinders' for the development of more sustainable communities; to foster sustainabilityrelated knowledge and skills among students in respect of emerging patterns of employment; and to lead the field in sustainability research.

LESSONS LEARNT

Over the last decade, in some respects, quite a lot has been done and achieved, not only in relation to research and development, advanced courses spinning off from this, and undergraduate courses incorporating a range of sustainability issues because of internal interest and external accreditation requirements, but also in relation to environmental management (estates, transport, energy, waste, etc). But, if we examine the extent to which HEIs have actually reoriented themselves such that environmental and sustainability issues now pervade the vision, ethos, thinking and work of the institution, then the conclusion probably has to be that very little has happened in most cases.

Where there has been development, however, the drivers for this seem reasonably clear in that, over time, universities have responded to:

- Their own (individual / groups of academics) and their stakeholder interests (community / students / partner institutions).
- External stimuli (research funding and institutional development opportunities / accreditation requirements).
- New legislation and regulation (waste / transport / water / energy / etc).

They have, however, been less likely to respond to exhortation or rhetoric from government or NGOs where demand (from staff / students / the local community) has been absent. All this reflects the notional independence of English HEIs from government where there is a fine, but important, line between offering support to the HE sector, and attempting to steer it in a particular way.

English HEIs know that their research in relation to policy can take one of three forms. It can be:

- i. In support of policy, in that it explores and helps develop policy initiatives through collaboration with governmental and other agencies.
- ii. In exploration of' policy, in that it focuses on the effectiveness of programmes and developments, often in a formative way, with the purpose of aiding current development.
- iii. In critique of' policy, in that it focuses on established ideas and developments with the purpose of engendering understanding and/or alternative development.

There is evidence that all three are going on currently in relation to SD and ESD, and this interest and engagement, and its increasing significance within the mainstream of the HEI world, is perhaps the best testimony to development within the sector.

PLANS FOR THE FUTURE

HEFCE's strategic review of SD in HE is now underway and is set to report in late 2007. The outcomes will inform the development of HEFCE's action plan for 2008 onwards. HEA is developing plans to foster networks of ESD-active academics in England and the UK more widely, and funding innovative developmental work in subject centres and HEIs. It is holding a conference on HE and ESD in July 2007 at Bradford Ecoversity, and developing generic curriculum and strategy / policy materials on ESD to encourage engagement by academics and senior management.

HEIs are working to their own plans and policies, but greater engagement with SD / ESD in teaching and learning, and policy, can be expected in 2007.

Belgium Flude Education for Sustainable Development Strategies in

BELGIUM UNIVERSITIES

Ilse Rottiers ECOCAMPUS, a project of the Flemish Community about environmental care in higher education

SUMMARY

EcoCampus encourages, rewards and provides tools to assist higher education of Flanders institutions in moving towards environmental sustainability and good operational and management practices. EcoCampus is now working on a manual for higher education institutions in Flanders (will be finished in march 2007). This manual will help institutions develop their own environmental care system. Students together with staff will be encouraged to work together on different environmental issues and sustainable development. An important lesson learnt is that the individual character (culture and organisation) of the institutions should be respected.

1 This report does only discuss the state of affairs, as interpreted by the author, in the Flemish part of Belgium.

STATE OF AFFAIRS

ocument 'Vlaamse Strategie Duurzame The poli Ontwikkeling' (VSDO - Flemish Strategy on Sustainable Development) emphasizes the importance of sensibilisation, education and communication as instruments to manage the objectives of the strategy. Education (formal as well as non-formal and informal learning) is mentioned to be necessary for working towards sustainable results in changing the attitudes concerning consumption and production. With regard to educational aspects of this Flemish Strategy, clear links will be made to the UNECE-strategy on Education for Sustainable Development.

Chapter 7 ('Managerial aspects of the strategy') contains a paragraph about 'Information, communication, education and sensibilisation'. The internal exchange of information and experiences concerning sustainable development inside the Flemish administration should be an important starting point. The civil society organisations are attributed a considerable role with regard to the development and implementation of the VSDO. The 'ecological footprint' is mentioned as an interesting tool for education.

The VSDO gives priority to the seven items which are also emphasized in the European Strategy on Sustainable Development: poverty and social exclusion – the strong increase of the ageing population – climate change – mobility – environmental planning – sustainable management of natural resources – combating health risks. Additional to those seven themes, the Flemish strategy postulates twelve 'operational projects'. ESD is one of those projects which tries to reach the following long term objective: 'developing and implementing ESD in formal education as well as in non-formal and informal learning contexts in order to increase knowledge and competences of the learners in favour of a healthy and productive life in harmony with nature and respecting social values, gender equality and cultural diversity'.

In their policy documents for 2006-2007, the proper ministers for Sustainable Development, Education and Environment emphasize the need for giving more attention to ESD. An ESD-platform (see below) is already operational.

More specifically, some universities and teacher training colleges have adopted ESD in their mission statements and are beginning to look for meaningful translations of ESD in the everyday practice of teaching and research. Examples include: SD in Mission Statement of de University of Antwerp, UA, 2003; SD in Educational vision of KHLeuven; The Comenius project for teacher training; DIVISI and DOHO project in KHLeuven; and implementation of AISHE at KHLeuven.

APPROACH

An ESD consultation platform within the Environmental Integration and Subsidies Division of the Environment, Nature and Energy Department of the Flemish administration has the assignment to transform the UNECE Strategy into a Flemish implementation plan. Therefore, the current state of the ESD policy and of the existing initiatives, regulation and resources is being formulated on the basis of the international indicators concerning the objectives of the UNECE Strategy. This report is meant to be the context analysis on the basis of which a editorial group will write the Flemish implementation plan.

COOPERATION

 Experts related to universities and other institutions for higher education are being part of the above mentioned ESD consultation platform and the editorial group. They also are involved in several existing ESD initiatives (see

below).

- In order to stimulate research about ESD, a Centre of Expertise for Sustainable Development has been set up with the following objective: supplying data, instruments, methods and evaluations that can be used for the future policy (development).
- For ECOCAMUS there is a steering committee among others represented by the five Flemish higher education associations.

LEADERSHIP

ESD is not a structural part of the education curriculum at the Flemish universities. In order to increase the competences to take the lead towards a sustainable future, a publication with good practices will be released in 2007. This should offer inspiration for other educational institutes concerning ESD in the curriculum as well as in the institutional management.

In practice, ESD is part of several teacher training courses and other learning programmes.

All Flemish universities have signed the Copernicus charter? (Copernicus charter: http://www.copernicus-campus.org/)

LESSONS LEARNT

The Flemish higher education is often implementing ESD in its curricula without yet being recognised as such.

Don'ts: ESD is still too frequently limited to environmental issues.

PLANS FOR THE FUTURE

National Government

-In 2007 the Flemish community will start up a learning network for all policy makers in the higher education sector.
A key objective for this network is to make agreements for incorporating sustainable development in higher education.
- EcoCampus will support higher education institutes developing their own environmental care system by means of the manual (finished in March 2007), visits, training days,...

Universities

In 2007 a publication with good practises of implementation strategies for ESD will be published and made available to all universities.

Resource

Waas T. en M. Sys (2002), Institutionalisation of Sustainable Development: the University of Antwerp, in: Proceedings, Environmental Management for Sustainable Universities International Conference, The Role of Higher Education in Sustainable Development, Rhodes University, South Africa, 11 13 September 2002



EDUCATION FOR SUSTAINABLE DEVELOPMENT STRATEGIES IN GERMAN UNIVERSITIES

Gerd Michelsen Maik Adomßent

SUMMARY

German higher education institutions have not yet made any systematic attempt to deal with the question of how aspects of sustainability are to be integrated into teaching and learning. Even though there are currently a wide range of courses in which sustainability has a role to play, courses that explicitly carry a title including 'sustainability' or 'sustainable development' represent only a marginal group. Individual establishments have dealt with issues of sustainability in exemplary fashion on a number of levels - teaching and learning, EMAS certification, sustainability reporting, sparing use of resources, among others - without as yet having achieved any broader following among other institutions. There is no active network linking institutions on sustainability issues, although the first signs of sustainability being implemented at higher education institutions are appearing at the level of individual federal states (e.g. the NUN Partnership). In the area of research and development there is a framework programme on sustainability research and a concrete funding programme for socio-ecological research.

In the context of the German UN Decade of Education for Sustainable Development, it has proven possible to establish a working group entitled: 'Higher Education: Research, Teaching, Service', which is currently preparing a declaration of principles for 'Higher Education and Sustainability'. As part of the NUN Partnership, which brings together the North German federal states, a declaration was adopted as early as November 2005 containing concrete proposals for measures to implement aspects of sustainability at higher education institutions. At present, four North German universities of applied sciences are working on a transfer of 'good practice' in higher education for sustainable development, on the basis of the experiences gathered at the University of Lüneburg. An active network linking institutions, within which the issues of integrating sustainability into the higher education sector could be discussed, is considered to be of the utmost importance. In addition, there is an urgent need for a change of course in higher education policy to provide stimuli for the implementation of sustainability.

STATE OF AFFAIRS

The concept of sustainable development itself, as well as individual topics with relevance to sustainability, have found their way into the course catalogues of German HE institutions. This fact is also confirmed by the 'UNI 21'⁵ study, published in 2004 by the Federal Ministry of Education and Research (BMBF). This study makes clear that only individual HE institutions have hitherto taken a more intensive approach to aspects of sustainability in their various fields of activity. The study raises the call for a publicly financed research and development programme on higher education and sustainability, in order to initiate a process moving towards a more complete integration of the concept of sustainability into HE institutions. Currently, the Future Institute at the Freie Universität in Berlin is carrying out a survey of sustainability-relevant courses on behalf of the BMBF, with the objective of creating a guide to 'Teaching and Research for Sustainability in Germany'⁶. The aim of this guide is, in the first place, to inventory all of the study options available in the area of sustainability studies, presenting and classifying them in a systematic manner. In second place, the guide is to list and describe the leading research institutions and their profiles. It is to cover state-funded institutions in particular, as well as a selection of other research institutes. This publication is intended to provide comprehensive information to prospective students, researchers and consultants, as well as to the HE institutions and research institutes themselves.

The initial findings – on the basis of around 280 responses from HE institutions – bring out the following developments:

- Explicit reference to sustainable development is seldom made. This gives the impression that the courses or the departments/faculties that offer them do not use sustainable development as a selling point in their external profiling, and that often there is no corresponding normative orientation behind their thought and acts. A (comprehensive) normative orientation of teaching and research towards the idea of sustainable development as called for in the Agenda 21 and in the Bergen Communiqué of European education ministers is not yet in existence. Subordinate partial objectives, such as the conservation of resources and energy efficiency, are being achieved nonetheless.
- Around one-quarter of the courses are to be considered interdisciplinary, in the sense that they go beyond disciplinary boundaries (such as those between engineering, life sciences, natural sciences, social sciences, the humanities and behavioural science). This, however, would appear to ascribe three-quarters of courses to a single scientific area or discipline. As has been the case since the late 1990s, courses from the field of engineering predominate.
- A change in the structure of courses towards Bachelors and Masters degrees is in progress, but far from complete.
- The international dimension appears to be gaining in importance in the courses. This is manifested in course content with an international frame of reference (i.e. international environmental policy), international courses or international cooperation between institutions, or reference to the international employment destinations of graduates.

The definitive findings of this survey shall be made available in the autumn of 2007.

APPROACH

As part of the UN Decade of Education for Sustainable Development in Germany, a National Committee was set up by the German Commission for UNESCO, the tasks of which

6 Available online: http://www.leitfaden-nachhaltigkeit.de/

⁵ Bundesministerium für Bildung und Forschung (Ed.): UNI 21. Hochschulbildung für eine nachhaltige Entwicklung. Berlin 2004

include motivating all educational sectors to implement Education for Sustainable Development. One of the activities of the National Committee is a 'Round Table' made up of education stakeholders, which has in turn set up a range of working groups, including one entitled 'HE institutions – Research, Teaching, Service'.

As yet, there has been no systematic approach to creating courses at HE institutions which pay due regard to sustainability issues. In the accreditation processes for new courses, sustainability has hitherto hardly been considered a key criterion. One difficulty which arises for the integration of sustainability into courses is Germany's federal structure, as educational issues fall under the responsibility of the individual states. Individual states are motivating their HE institutions to deal more intensively with sustainability issues by holding conferences on Education for Sustainable Development.

The North German states of Hamburg, Lower Saxony, Mecklenburg-Western Pomerania and Schleswig-Holstein have joined together in a partnership (NUN), which has the aim of integrating Education for Sustainable Development into all educational sectors. A Declaration on HE Institutions and Sustainability (the Lübeck Declaration) was drafted at this level, calling on HE institutions, public administration and politics to begin a voluntary self-assessment process with the aim of redoubling the presence of sustainability in HE institutions. The Declaration calls upon all HE institutions in North Germany to deal thoroughly with its requirements and the measures proposed within it, and to take the corresponding steps in line with a predetermined timetable. In this context, an initiative has been created by four technical universities to transfer 'good practice' - as developed and implemented over recent years by the University of Lüneburg - into their institutions.

An initial balance of the activities carried out so far is to be drawn as part of a large conference taking place in November of 2007.

COOPERATION

Exchange between HE institutions is taking place by means of commissions or working groups within federal states, or by means of multi-state working groups. But cooperation also takes place between HE institutions and ministries in order to sound out new steps aimed at giving greater emphasis to sustainability in HE institutions, to create incentives or to initiate concrete cooperation projects between institutions. There is a working group on HE institutions at federal level as part of the UN Decade of Education for Sustainable Development. This working group intends to draft a declaration which is to be addressed to the Standing Conference of Science and Education Ministers and to the Rectors' Conference, via the National Committee for the UN Decade set up by the German Commission for UNESCO.

The COPERNICUS Charter for Sustainable Development, adopted by the Confederation of European Union Rectors Conference in 1993 as a direct response to the Rio Conference of 1992, has played an important role for HE institutions in the implementation of sustainability. So far, 45 HE institutions in Germany have signed the COPERNICUS Charter. The network built up around the Charter, 'COPERNI-CUS Campus', which played an important role in integrating sustainability issues into HE institutions and in furthering cooperation between institutions, ceased functioning last year.

LEADERSHIP AND COMPETENCE

The question of whether those studying today have been adequately educated to fulfil the tasks that the future will set them is a question that cannot be answered unequivocally. In the process of changing the structure of courses from 'Diploma' and 'Magister' degrees to the Bachelor/Master structure, there is at the very least a switch from input to output orientation – that is to say, the transmission of subject skills and key competencies takes centre stage. If it is a question of the attention paid to sustainability in teaching, then the concept of competencies involved is one that comes close to the DeSeCo/OECD 'key competence' approach. The concept of *Gestaltungskompetenz* – 'shaping competence' – lies at the heart of this approach, although the term has chiefly been used in the school sector to date.

The concept of Gestaltungskompetenz finds its roots in the normative formulation of objectives for sustainable development. In the German debate on ESD, competences have been defined which are expected to facilitate active, thoughtful and cooperative participation in the task of shaping sustainable development. In doing so, orientation was found in an understanding of education that is characterised by the education-theory premises of openness, thoughtfulness and preparation for the future. Gestaltungskompetenz can be described as the forward-looking ability 'to modify and model the future of the societies in which you live, participating actively in the spirit of sustainable development'. As a conceptual basis for ESD, the following partial competences were agreed upon in Germany during the preparations for the Bund-Länder Commission programme 'BLK 21', which was initiated in 1999 for the school sector⁷:

- Competence to think in a forward-looking manner, to deal with uncertainty, and with predictions, expectations and plans for the future.
- Competence to work in an interdisciplinary manner.
- Competence to achieve open-minded perception, transcultural understanding and cooperation.
- Participatory competence.
- Planning and implementation competence.
- Ability to feel empathy, sympathy and solidarity.
- Competence to motivate oneself and others.
- Competence to reflect in a distanced manner on individual and cultural concepts.

⁷ This programme ended in 2004; since then, another Bund-Länder programme has been under way, entitled 'Transfer 21'. The programme is operating over a timeframe of four years and aims to integrate Education for Sustainable Development into around 4000 schools by mid-2008.

The implementation of *Gestaltungskompetenz* in the higher education sector is still in its early days. One significant reason for this is that teaching staff do not feel properly equipped for the complex task of interdisciplinary teaching. In future, the focus should thus be placed on further training for teaching staff, to ensure that they are ready to rise to the specific challenges of a sustainable learning culture and are able to develop 'interdisciplinary competence'.

LESSONS LEARNT

Sustainability tends to play a subordinate role at German HE institutions. Even when the choice of study options appears to be relatively broad in quantitative terms, there are still few courses that can be characterised in terms of higher education for sustainable development. At the same time, there is a lack of further training options for teaching staff, without which they are unlikely to be capable of taking on the particular challenges of a sustainable learning culture. The fact that responsibility for education policy lies in the hands of the various federal states is hardly propitious to the creation of a unified strategy for a more thoroughgoing integration of sustainability at HE institutions. Individual federal states are making use of partnerships (e.g. NUN) in order to motivate the institutions into making greater efforts in the direction of sustainability in teaching. Voluntary commitments and self-assessment processes have as yet failed to produce any verifiable changes. The process of transition to Bachelors and Masters programmes provides the opportunity to integrate sustainability issues more thoroughly into the new courses, although there are to date no binding criteria to that end in the accreditation process.

A network would appear to be necessary to link up the HE institutions that have already taken sustainability issues on board, or those which wish to become active in this area. It is also important for the federal states to reach common agreements as to the integration of sustainability at the various levels of HE institutions. It would also appear to be necessary to create incentives that stimulate HE institutions to deal with sustainability issues across all of their areas of activity.

PLANS FOR THE FUTURE

In terms of the funding opportunities for research and development activities in the area of higher education, the priority action area 'Research for Sustainability' (FONA), which includes a framework programme under the auspices of the Federal Ministry of Education and Research (BMBF) for a sustainable, innovative society, is the most high-profile. Within this framework programme, the demands placed on the strategic development of HE institutions are also covered, with the following emphases being set:

• Individual working programmes in HE institutions, monitored and supported by an expert body (e.g. module and course development),

- Creation of inter-institution partnerships with networks of up to 20 HE institutions and
- Comprehensive monitoring of the contribution made by German HE institutions to sustainable development, in the interests of societal transparency.

Nonetheless, no concrete funding programme has yet been derived from these proposals. What does exist in concrete terms is the funding programme for 'Socio-Ecological Research', which has been in existence for five years. This supports a variety of priority areas in sustainability research. A number of large foundations (e.g. the Deutsche Bundesstiftung Umwelt) have also supported both large and small scale development projects in the area of 'Higher Education and Sustainability'.

A Commission on Education for Sustainable Development working within the German Society for Educational Science adopted a research memorandum on Education for Sustainable Development in 2003, as well as compiling comprehensive proposals on 'Teacher Training for Sustainable Development in a research paper.

In the National Plan of Action for Germany⁸ (NAP) brought out for the UN Decade, a range of measures were proposed for teaching in Higher Education. These measures are currently being evaluated, so no conclusions can yet be drawn as to their concrete implementation. As part of the UN Decade, awards continue to be made for particularly convincing projects focussing on Education for Sustainable Development. Of the 450 prize-winning projects proclaimed to date, around 50 involve the higher education sector, which makes clear the extent to which the sector is underrepresented in this initiative.

8 Nationaler Aktionsplan für Deutschland. UN-Dekade "Bildung für nachhaltige Entwicklung", Berlin 2005, (www.dekade.org).

The Netherlands

EDUCATION FOR SUSTAINABLE DEVELOPMENT STRATEGIES IN THE NETHERLANDS

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SUMMARY

DHO is an established organisation for sustainability in higher education. Founded in 1998, it has now tentacles on almost every higher education institution in the Netherlands. DHO has a board with six members: four are board member of (professional) universities; two are the chair persons of the member organisations of both the universities and the professional universities. DHO has a committee of advice with members of four ministries, two universities and two professional universities. In the last few years DO has reached the following results / product

- Sustainable development is integrated into the Accreditation system in the Netherlands.
- A quality mark, based on Auditing Instrument on Sustainability in Higher Education (AISHE), is developed and 6? Universities have successfully applied for it.
- Basisboek Sustainable Development: a comprehensive book on the foundations of sustainable development published by Wolters Noordhoff, specially designed for students in the first year of university
- The list of disciplinary reviews is now 20 (Two in English).
- Sub networks are established:
 - Network "Duurzame Pabo" sustainability in train the trainers program for vocational learning.
 - Network on sustainability in building.
 - Network on sustainability in water management
- A system of account management is developed. Thee is now formal contact with institutions on which 80 % of all students in the Netherlands are studying.
- A model of transdisciplinary and intercultural education is developed and applied in different institutions.
- 35 institutions are working (more or less) on ESD and have an account manager from DHO.
- A process is started in order to establish close contact with companies.
- Every year a nation wide symposium on sustainability in Higher Education is organised (200 visitors).

STATE OF AFFAIRS

ORGANIZATION OF DHO

DHO was founded in 1998, the organization has become a foundation with official board members in 2002. The Commission for Sustainable Development in Higher Education (CDHO) was formed in the Netherlands in 1999 to stimulate the cooperation between representatives of both Higher Education institutions and of the Ministry of Environment, of Economy, of Education and of Agriculture (in 2007 the ministry of Foreign Affairs is a member as well).

At the start of the network several working groups where established with the aim to make products with expertise from different universities.

- Working group on criteria. Product: Auditing Instrument on Sustainability in Higher Education. Working group was closed in 2002.
- Working group on interdisciplinary education. Product: Education model for transdisciplinary education. Working

group was closed in 2003.

- Working group on Disciplinary knowledge. Products: 20 disciplinary reviews on he relation between a discipline and sustainable development. This working group closed down in 2004.
- Working group on North-South relations. Products: model on intercultural education, linked with the transdisciplinary model, many exchange projects with developing countries. Working group is still running.

As you can see most working groups where closed down after several years of existence. This was not because of lack of interest, but a explicitly made strategic decision. The products aimed for where delivered and the main task left is implementation. For implementation there is no need for a working group but for people working, stimulated by the account managers from DHO.

However, there was demand for sub networks. To work within the field of sustainability and higher education on specific themes. DHO has set up three sub networks within DHO:

- Network "Duurzame Pabo" sustainability in teacher training programmes for primary education. In the Netherlands all teachers for primary education are trained at the "pabo": a four year program to become a teacher. The sub network tries to integrate sustainability in all "pabo" institutions in the Netherlands. To start with several best practises where put together, competences for future teachers where described and an exchange program with students form Surinam and Ghana is planned.
- Network on sustainability in building. In the field of building a lot is going on related to sustainability: Energy efficiency, using sustainable materials, using sustainable energy etc. However, according to the building companies there is a lack of knowledge by students in this area on sustainability. Then aim of this sub network is to integrate sustainability in all building programs.
- Network on sustainability in water management. Sustainable water management is a hot topic in the Netherlands. This sub network is linking professionals on water management with teachers and students on water management. Several pilot project where carried out.

EMPLOYERS

DHO is a network organization with in total 6.0 Full Time Employer (FTE). 12 people from different institutions are working for DHO. We intent not to grow as an organization (in numbers of FTE), but to grow as a network. DHO is financed by:

- Ministry of Environment (50 %)
- NGO's (30 %)
- Higher education institution (20%)

APPROACH

National level

Before going into depth on the strategies for sustainable higher education, it is important to emphasize two points which makes the Dutch situation typical Dutch.

- In comparison to other European countries universities in the Netherlands have a certain level of independency with a strong focus on ownership and responsibility, which means that they are not bound solely to ministerial rules/regulations imposed from above. Universities have the freedom to define their own priorities, both on research as well as on education. There is no set curricula form above in the Netherlands. The Ministry of Education does not focus on content. Content of education and research is decided by the field of educational institutions, scientific organizations and boards (with influence form companies and NGO's).
- In the Netherlands there is a difference between Universities and Universities for professional learning (Hogescholen). Both are higher education institutions. Universities focus on research and scientific education, Hogescholen are focusing on higher education for profession. In the further parts of this paper to both institutions will be referred to universities.

A merely top down approach will not work within the Netherlands, seen the things mentioned above. Which strategies are working in order to integrate sustainable development into higher education? The answer is combination of different strategies. DHO is working with a set of three combines strategies:

- 1 Support individual institutions, both on the board, on the teachers and on the student level.
- 2 Spread information: Clearing house.
- 3 Mainstreaming
- 4 To create products which can be applied in all higher education institutions in the Netherlands.

These four strategies are worked out in the following direct actions in the Netherlands.

- Support. A nation wide network has been set up, with more than 1000 members from all higher education institutions. Via this network main contact persons are selected, on those institutions which really work on sustainability. In this way DHO has structural and formal contacts with more than 50 % of all higher education institutions. Each selected institution has an account manager from DHO. This account manager is taking action together with the members of the institutions (like organizing an event, a conference, training programs etc.) in order to come up with a program adapted to the specific situation of the institution. DHO has subsidy from the ministry of Environment to establish the account management.
- 2 Clearing house. In and outside the Netherlands there are many sources of information concerning Sustainable development and higher education. In order to get to right information on the right place all member of DHO are getting
 - The DHO quarterly
 - The DHO news via email (5 times a month a email with up to date information)
 - The DHO annual report (with all projects on different institutions)

3 Mainstreaming. People do not automatically take responsibilities on this theme. A teacher says "yes it is very important, but I think you can better ask my colleague". The colleague says "yes, but I want to have a confirmation of my board. Do they really think this is a priority?" The board wants to know if it is a priority in the ministry (money...). And the Minister says "the universities and the teachers have to do it themselves. I can not set priorities". Everyone agrees, no one is doing something. In order to break true this circle DHO has lobbied on all levels, so institutions are stimulated to do something.

Results are:

- a. Sustainable development and higher education are mentioned in the Dutch Plan for Higher Education from the Ministry of Education.
- b. DHO has a board with 6 members of boards of different universities and the two chairpersons of the member organizations of universities (HBO-raad and VSNU).
- c. In the formal accreditation in the Netherlands for higher education sustainable development is the first special criterion on which the institutions can be measured (not compulsory).
- d. There is a quality mark for sustainability in higher education, for which universities can apply (from one star all the way up to four stars).
- e. The Ministry of Education and the Ministry of Environment have developed a two annual price for innovation and sustainable development (Columbus' Egg). Universities form a specific target group.
- 4 Products. Integration of sustainable development into curricula costs a lot of investment. Some of those investments can be done nation wide, or even internationally.
 DHO has made the following products for universities:
 - a. Auditing instrument on Sustainability for Higher Education (AISHE). See bijlage1.)
 - b. Disciplinary Reviews on 20 disciplines.
 - c. Transdisciplinary education model.
 - d. Intercultural education model
 - e. Book on foundations of Sustainable development. All products where made with staff members of different higher education institutions, so the products where not adapted to one single institution but can be applied on all.

INSTITUTIONAL LEVEL

DHO has insight in the level of integration of ESD into the curriculum of both universities as professional universities.

In general it can be said that institutions of professional universities are stronger in integration of ESD into curriculum then universities. The Executive board are committed and ESD is integrated in most mission statements, boards are giving priority to ESD and there is commitment on the level of directors and teachers. There is a combination of top down and bottom up approach. In universities there is a lot going on the level of teacher and professors. Board members are do usually not work top down in content related issues, as teachers and professors are responsible themselves for the content. DHO has divided all institutions into three categories

- A. is seriously involved. Integrated in the mission and already results are made in the curriculum.
- B.There is commitment on all levels and ESD is integrated in the mission. There are courses and active teachers, but is not yet integrated into the system of education.
- C. No systematic activities are detected.

In totally there are 59 institutions for Higher Education in the Netherlands. At this moment 28 are in category A. 15 in B and 16 in C.

SCHEMATICALLY



COOPERATION

The network was started on initiative of students and teachers. Directly from the beginning national government stimulated and facilitate this network. The ministry of Environment, Education and Agriculture where closely related. At the start the students asked the ministry of Environment to take the lead. The ministry answer was that it would not take the lead but would do his best to facilitate (both with expertise and financing) a network. Together with the ministry of education a price for higher education on sustainable development was awarded in 1998.

After this, the network was established and four working groups where established. The first year the working groups where working without financing. In 1999 VROM decided to finance the working groups and the network. After the foundation of the network the three ministries where members of the unofficial commission on SD in Higher Education. The key words for this cooperation where:

- Unofficially
- Commitment with the theme
- Networking

All members of the CDHO came up with information for possible funds, possibilities for necessary products etc.

In 2006 DHO is embedded in the nation wide programme Learning for Sustainable Development. This program is initiated by 6 ministries, The Union for water affairs and the provinces. In this program ministries and other partners are working officially together, included with funds for projects. Two members of the CDHO are also members of the Steering committee of learning for Sustainable Development.

LESSONS LEARNT

SUCCESSES OF CDHO

Even today the CDHO still exist as an unofficial commission, in which the members can freely interact and discuss on possibilities, necessary actions. Some important successes:

- Because the civil servants in the CDHO have insight in the he processes going on in the ministry, DHO was able to integrate sustainable development into different policy documents.
- Because of the commitment from different ministries financing was made easier.
- Agenda's of actions from universities and government where exchanged and adapted to one an other.

BARRIERS

Barriers are in the mind. Processes are going slowly but are there, in the good direction. Of course we did find some barriers:

• Every level (board, ministries, teachers, students) has there own reason not to act. The main important one for government is the freedom of the universities for curricula development. We did overcome this barrier by using the strategies described above; however we did not overcome this totally.

LEADERSHIP

Our society faces many economic, social, ecological, and political challenges from the local to the global level.

Many like to see 'sustainable development' or 'sustainable globalization' as a solution: integrating environmental stewardship, economic development and the well-being of all people - not just for today but for generations to come, not just for people living here, but for people all over the world. This statement is made quite easily, but what does it actually take to contribute to innovating and developing in a sustainable way?

We believe taking leadership for a sustainable development asks the development of a number of qualities that are currently not so much in the core of higher education curricula in The Netherlands.

The first three qualities are about deeply understanding the dynamics of sustainable development:

1. Understanding sustainable development A general understanding of the concept of sustainable development. Integral insight into the systems (economic, natural, political) of our society and the flaws in those systems, as well as in points of leverage for change towards sustainability.

2. Systems thinking Understanding of systems dynamics and being able to look at reality from a systems perspective. Being able to look at consequences of interventions in a systems perspective.

3. Adopting an integral view Being able to adopt an integral view. Looking at reality from many different perspectives (across disciplines, across sectors) thereby enhancing the ability to think creatively and to have the capacity for change.

The next four qualities are about driving change and innovation:

4. Personal leadership and entrepreneurship The ability to choose the direction of life, to be empowered, to lead by example and inspire others. The ability to initiate and drive change and to create new opportunities.

5. Unlocking creativity Following Einstein's quote: ability to think from new mental models and paradigms, think out of the box and really create new solutions. Ability to reflect on and letting go of current patterns, beliefs and behavior.

6. Appreciating chaos & complexity Appreciating the inherently chaotic and complex nature of reality. Being able to navigate in such a reality and intervene in an effective way.

7. Fostering collective change Understanding the dynamics of collective change and learning processes. Ability to create results in collective processes.

DHO is developing, in cooperation with several companies "The Leaders for the Future program". This program is set up to provide a powerful learning environment for students to start developing these qualities, mentioned above.

PLANS FOR THE FUTURE

General

In 2007 DHO is setting up the following new activities:

- A list of ambassadors is being made, in order to bind people with influence in Dutch society. For instance, the formal Dutch Prime Minister (Lubbers) has already confirmed.
- A special high level education program together with companies is made, in leadership.
- A manifest / charter is going to be made between universities and companies.
- DHO is aiming for stronger international cooperation. Until now the AISHE model was brought to the attention of the GHESP toolkit and some disciplinary reviews where made available in English. In the future we are developing a AISHE 2.0, in cooperation with 10 other European countries. Also all new disciplinary reviews will be published in English.
- DHO is aiming to make contract with several big organizations to cooperate on a higher level.

National Government

DHO is now part of the program Learning for Sustainable Development of 6 ministries, The Union for water protection and the provinces. In the future DHO will be integrated more strongly into the Interdepartmental Learning for Sustainable Development Programme (LvDO).

Universities

DHO is aiming to get more universities in the A category. We think that at the level of Professional universities we are on the right track with products and contacts. However, for the universities DHO needs to change her strategy; research needs to be included in order to reach the mainstream of universities.

- As an organisation for sustainable development we have go beyond the usual suspects. Meet and interact with the unexpected people. If we stick to the natural allies, we will not integrate sustainable development into higher education. Board members, professors of economics etc. needs to be active in the network.
- If we want to make sustainable development mainstream in higher education we cannot only provide information to the early adaptors.
- If "important people" are connected mainstreaming is more easy.
- Commitment on all levels is essential.
- We start with people and institutions that are really willing to work on sustainable development. People and institutions that are lacking interest, we leave behind.
- Informal cooperation with governmental organizations is crucial.

SYNTHESIS AND THE WAY FORWARD

When looking at the policies, structures and governance arrangements of the six featured countries, one can conclude that they by and large follow those as suggested by the international initiatives such as UNECE, Copernicus, DESD, etc. In addition and more concretely, most featured countries have national guidelines and commissions in place with the aim of promoting education & research on SD or where SD even begins to become part of accreditation and certification mechanisms. Also the emergence of NGOs, Centres of Excellence focusing on SD in IHE and national networks & platforms looking for synergies are on the rise in some countries. Based on the six reports the picture is quite rosy and encouraging, even when the authors have tried, for as much is possible, to be as fair and balanced as they could in their reporting and even when considering all the limitations as expressed in the introduction of this publication. But of course we need to mind the gap between espoused progress and the nitty-gritty reality of everyday academia, especially when an ill-defined idea such as sustainable development is at stake. Perhaps if we examine the extent to which IHEs in these countries have actually reoriented themselves in such a way that environmental and sustainability issues now pervade the vision, ethos, thinking and work of the institution, then the conclusion probably will be that very little has happened.

The ill-defined and uncertain nature of working towards sustainable living and the complex and contextual nature of higher education itself, does not allow for universally applicable recipes for implementing sustainability in higher education. University boards cannot rely on the exclusive use of economic incentives, rules, standards, and regulations to enforce sustainability in higher education. At the same time, reliance on the instrumental use of education, training, and communication to promote or even force one particular view of sustainability, is problematic as well, particularly in higher education where critical and autonomous thinking should perhaps be emphasized the most. Yet, almost everybody agrees that our current ways of living are inherently unsustainable and higher education by means of its research, education and community linkages, needs to become a big part of the solution instead of remaining a part of the problem. This we might call the higher education sustainability paradox.

IHEs have different options in responding to the sustainability challenge. One of the participants in the Amsterdam IMESD meeting, Stephen Sterling whose quote opens this publication, has created two helpful tables that describe some prototypical responses that can be found.

Sustainability transition		Response	State of sustainability
1	1 Very weak	Denial, rejection	No change (or token)
		or minimum	
	2 Weak	'Bolt-on'	Cosmetic reform
	3 Strong	'Build-in'	Serious greening
┛	4 Very strong	Rebuild or redesign	Wholly integrative

Table *: Institutional responses to the challenge of sustainability (free after Sterling 2004)

From	То
Incoherence and fragmentation	Systemic coherence and positive
	synergy
Large scale, loss of connectivity	Human scale, high connectivity
Closed community	Open, 'permeable' community
Teaching organisation	Learning organisation
Microcosm of unsustainable society	Microcosm of a sustainable society

Table *: Transitioning towards deep sustainability (free after Sterling 2004)

The two tables show that a very strong transition towards sustainability requires some major shifts in the way IHEs look at the world, the way IHEs relate to the world, the way institutions interface with the world, the way IHEs conceptualise teaching and learning but also what counts as knowledge, and the way IHEs act and manage. Sterling even speaks of the desirability of whole system re-design in order to avoid falling in the trap of shallow, feel-good sustainability and cosmetic reform, although he acknowledges the profound difficulties that this present to IHE's.

To create pathways that will allow for such a system redesign to take place in our IHEs a mixed bag of healthy opportunism (i.e. taking advantage of current trends or, perhaps, hypes in education such as the demand for competencebased education and the dynamics created by the Bologna process, but also in society such as the increased attention for global warming, etc.), creativity (building unlikely partnerships and coalition, creating space for innovation) and risk-taking on all levels (teachers, researchers, management, higher education policy, etc.). When looking at the demand for competence-based education, for instance, we can see it makes sense to start thinking in terms of 'sustainability competence' and ways to develop such competence. Some countries featured in this report are actually doing this.

"The competency required for SD is manifold, but the basis of it is relevant knowledge and an ability to think, act and take responsibility out of a holistic understanding of the preconditions of life on earth in a global perspective. It includes the ability to continuous learning from others and the ability to cooperate over disciplinary and professional borders, to think and analyse critically and to solve problems seeing possibilities and limitations in ones processional role. An important ability is also that of complex thinking and using specialists for different areas. Leaders need to have the ability to create enthusiasm and to think in new creative ways." (Sweden, This report).

Components of sustainability competence (The Netherlands, this report):

- Understanding sustainable development
- Systems thinking
- Adopting an integral view
- Personal leadership and entrepreneurship
- Unlocking creativity
- Appreciating chaos & complexity
- Fostering collective change

Sustainability Competence or rather Gestaltungskompetenz (Germany, this report)

- Competence to think in a forward-looking manner, to deal with uncertainty, and with predictions, expectations and plans for the future.
- Competence to work in an interdisciplinary manner.
- Competence to achieve open-minded perception, transcultural understanding and cooperation.
- Participatory competence.
- Planning and implementation competence.
- Ability to feel empathy, sympathy and solidarity.
- Competence to motivate oneself and others.
- Competence to reflect in a distanced manner on individual and cultural concepts.

Conceptualising sustainability competence can be a useful exercise to embed sustainability in HE with meaning and strategically important to get sustainability recognized in the official end qualification of Bachelors and Masters degrees. Of course, having them recognized does not yet mean that we know how to develop those competences. The latter requires a parallel process of reconceptualising teaching and learning, and indeed, the way we do research. All around the world we see evidence of BSc and MSc programmes that have begun the process of redesigning their curriculum and grounding the curriculum in a sustainability perspective. Box * contains excerpts from the redesigned Masters in Organic Agriculture of Wageningen University as one example of these efforts from the IMESD host country, The Netherlands.

In order to meet the challenge of producing healthy, socially responsible, ecologically sound and fair food, the MSc-programme in Organic Agriculture explores food production, food consumption and multi-functional land-use, holistically using multiple disciplines (i.e. plant sciences, animal sciences, social sciences and environmental sciences), multiple perspectives (i.e. sustainability, health, ethics) and different geographical scales (local, regional and global). Therefore, a systems approach characterizes both research and education in the Organic Agriculture MSc. The teaching and learning environment of the programme mimics many of the principles underlying Organic Agriculture: it is highly experiential (learning by doing), highly authentic (departing from real-world issues and utilising real-life case studies), highly interactive (involving multiple stakeholders and social learning), and highly interdisciplinary (spanning a range of disciplines). The curriculum has been carefully designed to provide a balance between fundamental and applied science. University groups working in various areas such as agronomy, ecology, soil science, animal sciences, pest and disease management, food technology, sociology, communication science and economics contribute, making this a well-rounded and holistic programme. Special courses have been created in order to assure that the whole learning experience constitutes more than the sum of the individual contributions of each group or discipline. The programme highly values the blending of 'theory-and-practice' and 'action-and-reflection' by stressing action learning and action research in both education and research.

Graduates from the programme become competent in a number of domains, including: systems thinking, analysis and design, farm conversion, innovation of production systems and food chains, collaborative problem-solving, niche marketing, and transition management. They are able to contribute to transitions towards a more sustainable world both from the consumer end and from the production end of the food chain. They are able to read and navigate the different forcefields surrounding multiple land-use, food production and consumption systems, and creatively work towards making these systems more ecologically, economically and socially sustainable. As such they help ground the field of organic agriculture in science and society.

Box * Excerpt from the Wageningen University Masters in Organic Agriculture (MOA) Mission Statement

Once these new concepts, ways of conceptualising and competences enter the system, they might just help shape accreditation schemes (and the indicators that oftentimes are used in those schemes) and the Bologna process (and the competences that are formulated through this process). Vice versa, once they enter these formal, (international) policy-driven processes, they might just trigger those institutions that were in denial or pre-occupied with cosmetic reforms, to take things to a higher level and move towards whole system redesign and a more meaningful integration of sustainability.

The countries that participated in the IMESD meeting in Amsterdam have listed a range of practical strategies that can be used for SD in IHE: benchmarking, utilising good practices, creating (support) networks (formal/informal) & sub-networks as well as inter-institutional partnerships, creating ESD Clearing Houses, ECOCAMPUS -like Offices and National Centres of Excellence, disciplinary reviews, influencing accreditation schemes. All these strategies are useful and legitimate as long as they do not take-over the ground work that needs to be done in the institutions themselves involving real teachers, students, researchers, administrators, janitors, caterers, suppliers, etc. Universities and government bodies dealing with higher education policy, both nationally and internationally, have to be ware, however, of creating a sustainable development doctrine supported by prescriptive management, indicators and a range of carrots and sticks.

"The overt promotion of sustainability (whatever it might be taken to mean) as the holy grail will only discourage students from raising doubts and differences of opinion because sustainability will be seen as the official line of the university... Carrots and sticks' are 'bribes and threats' to think the right way and do the right thing. Is that healthy for a university? What about those dissenting voices, that minority of academics (and students) who feel, and are prepared to argue, that the concept of sustainability is problematic, or who feel it represents a backward step rather than progress? What about respected academics who see 'consumerism' (frequently cited as a key area for behavioural change by advocates of sustainability literacy) as a good thing, or who do not think that industrial carbon emissions are a significant factor in climate change?" (Butcher, 2007).

Integrating, or perhaps it is better to say, in light of the above, addressing, sustainability in higher education ultimately can be seen as a multi-stakeholder social learning process. Such learning characterized by a number of features: 1) the value of difference and diversity in energizing people, introducing dissonance and unleashing creativity, 2) the importance of both reflection and reflexivity, 3) the power of social cohesion and social capital in creating change in complex situations loaded with uncertainty, and 4) the power of collaborative action that preserves the (unique) qualities of each individuals. As sustainability and sustainable development are increasingly seen as emerging properties of collaborative learning, the creation of a more sustainable world above all requires learning, and not just any learning, but transformative learning that leads to a new kind of thinking, alternative values and co-created, creative solutions, co-owned by more reflexive citizens, living in a more reflexive and resilient society.

Perhaps the question of the place of sustainability in the curriculum of higher education is not one of integration but rather one of innovation and systemic change within our institutions. The kind of change and change and innovation that will open the door for more transformative learning to take place. Transformative learning emphasizes 'learning for being', alongside learning for knowing and learning for doing. It requires permeability between disciplines, university and the wider community, and between cultures, along with the competence to integrate, connect, confront and reconcile multiple ways of looking at the world. Our search for a more sustainable world requires cutting edge new thinking that can break the cycle of un-sustainable knowledge creation and transfer, un-sustainable technological development and unsustainable consumption patterns tied to un-sustainable economic principles. At present most of our universities are still leading the way in advancing the kind of thinking, teaching and research that only accelerates un-sustainability. In order to break this pattern we need to question and reform deeply entrenched routines, structures and practices by taking advantage of the privileged position universities have in our society and utilising some of the brightest minds on the planet in finding ways to preserve, rather than to destroy, that very same planet.

But let us be cautious, universities also have a responsibility in encouraging students to question received wisdoms, doctrines and orthodoxies. Quoting once again from Jim Butcher's provoking article in Spiked-online (www.spikedonline.com): "Ideas, agendas and moral imperatives should stand or fall through an open ended, rigorous enquiry. The university is the institution that can ensure this takes place." From the examples and stories presented at the IMESD meeting in Amsterdam we can be impressed by both what has already been accomplished and, indeed, by what still needs to be done.

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